It is believed that no fee is due; however, should any fees under 37 C.F.R. §§ 1.16 to 1.21 be required for any reason relating to this document, the Assistant Commissioner is authorized to deduct said fees from **Legerity, Inc.'s Deposit Account No. 50-1591/2069.002200/TT2273.**

Reconsideration of the application in view of the following amendments and remarks is respectfully requested.

REMARKS

Claims 1-16 remain pending in the application. No new matter has been added. Applicant respectfully requests reconsideration of claims 1-16.

Claim 1 was rejected under 35 U.S.C. 102(e) as being anticipated by Lee (U.S. Patent No. 6,078,194). Applicant respectfully traverses this rejection. Applicant's invention is generally directed to a logic gate that is capable of delivering an output signal that has a relatively low noise component. In particular, claim 1 includes a recitation to "said low noise current source being capable of delivering a preselected voltage signal to said output terminal having a magnitude responsive to a first control signal relatively independent of the magnitude of the voltage on said first terminal of said voltage supply." Emphasis added. That is, the output of the current source is relatively free from variations in the voltage level of the voltage supply. At least one factor that contributes to the independence of the output of the current source relative to the voltage supply is the use of a p-type transistor (66 or 84) when the voltage supply (62) is a positive voltage. For example, consider the circuit shown in Figure 2 of the instant application. Assume that the voltage supply (62) is normally at about 5 Volts, but because of noise of other interference, the voltage supply (62) dips to about 4.5 Volts. The circuitry providing a control

signal to the p-type transistor (66) over the terminal (32) will likewise be reduced since it is also powered by the voltage supply (62). The reduced level of the signal applied to the gate of the p-type transistor (66) causes it to pass more current, thereby maintaining the voltage level of the signal delivered by the current source.

It is axiomatic that for a prior art reference to anticipate a claim, it must have each and every element set forth in the claim. Lee, however, does not show or suggest a low noise current source that is capable of delivering a preselected voltage signal to its output terminal that has a magnitude responsive to a first control signal relatively independent of the magnitude of the voltage on the first terminal of the voltage supply. This lack of independence is evidenced by the fact that the transistor (32) of Lee is an n-type transistor, whereas the voltage supply Vcc appears to be a positive voltage. The Examiner appears to argue that Lee could be made to be operate relatively independent if the n-type transistor were replaced with a p-type transistor. Applicant respectfully disagrees with the Examiner's position, but even if it were true that Lee could be modified to achieve Applicant's invention, the modification would render Lee ineffective as an anticipatory reference under section 102. That is, Lee clearly does not anticipate claim 1.

Further, Lee does not render claim 1 obvious. The Examiner's suggestion to replace the N-type transistor (32) of Lee with a P-type transistor would render the circuit disclosed in Lee inoperable. Clearly, the control signal PEN shown being delivered to the gate of the N-type transistor (32) of Lee would cause significant misoperation of the circuit disclosed in Lee if the transistor (32) was altered to be a P-type transistor. Further, inverting the PEN signal to compensate for the now substituted P-type transistor is illogical. The circuit of Figure 4A of

Lee, which includes the transistor 32, is an inverter. Thus, the Examiner's suggested modification would necessarily include adding an inverter in front of the modified inverter so that the appropriate output signal could be produced.

The Examiner's statement that claims 1-9 do not recite the transistor being a p-type transistor is not on point. The point of Applicant's discussion of the p-type transistor was to illustrate one example of circuitry that is capable of providing a first control signal "relatively independent" of the magnitude of the voltage on the first terminal of the voltage supply. Lee does not and can not show this "relative independence" because the transistor (32) of Lee is an n-type transistor, whereas the voltage supply Vcc appears to be a positive voltage. Thus, in Lee a decrease in the level of the voltage supply also results in a decrease in the voltage applied to the n-type transistor, which causes the n-type transistor to conduct less, not more. Thus, the structure of Lee exacerbates variations in the voltage level of the voltage supply, rather than compensates for them, as is true of Applicant's invention by virtue of its "relative independence."

Accordingly, Lee does not possess the "relatively independent" limitation set forth in Applicant's claim 1 for at least the reasons discussed above. Applicant respectfully requests that the rejection of claim 1 be withdrawn.

Claim 2 was rejected under 35 U.S.C. 103(a) as being unpatentable over Lee and the Examiner's opinion that a diode configured transistor is equivalent to a resistor. Claim 2 depends from claim 1, and thus includes all of the recitations set forth in claim 1. The rejection

of claim 2 adds nothing to overcome the shortcomings of the rejection of claim 1 discussed above. Accordingly, claim 2 is distinguished over the prior art for at least the reasons discussed above in conjunction with claim 1. Applicant respectfully requests that the rejection of claim 2 be withdrawn.

Claim 16 was rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (U.S. Patent No. 6,078,194). Applicant respectfully traverses this rejection. Claim 16 is distinguished over Lee for the same reasons discussed above with respect to claim 1.

Claim 3 was rejected under 35 U.S.C. 103(a) as being unpatentable over Lee in view of Chang (U.S. Patent No. 5,955,893). Claim 3 depends from claim 1, and thus includes all of the recitations set forth in claim 1. The rejection of claim 3 adds nothing to overcome the shortcomings of the rejection of claim 1 discussed above. Accordingly, claim 3 is distinguished over the prior art for at least the reasons discussed above in conjunction with claim 1. Applicant respectfully requests that the rejection of claim 3 be withdrawn.

Claim 4 was rejected under 35 U.S.C. 103(a) as being unpatentable over Lee in view of Thompson (U.S. Patent No. 3,651,334). Claim 4 depends from claim 1, and thus includes all of the recitations set forth in claim 1. The rejection of claim 4 adds nothing to overcome the shortcomings of the rejection of claim 1 discussed above. Accordingly, claim 4 is distinguished over the prior art for at least the reasons discussed above in conjunction with claim 1. Applicant respectfully requests that the rejection of claim 4 be withdrawn.

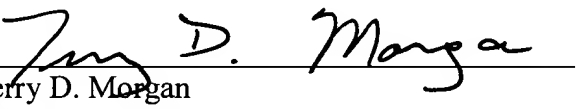
Claim 5 was rejected under 35 U.S.C. 103(a) as being unpatentable over Lee in view of Sundstrom (U.S. Patent No. 5,602,494). Claim 5 depends from claim 1, and thus includes all of the recitations set forth in claim 1. The rejection of claim 5 adds nothing to overcome the shortcomings of the rejection of claim 1 discussed above. Accordingly, claim 5 is distinguished over the prior art for at least the reasons discussed above in conjunction with claim 1. Applicant respectfully requests that the rejection of claim 5 be withdrawn.

The Examiner characterized claims 6-15 as being essentially the same in scope as rejected apparatus claims 1-5 and 16, and thus rejected claims 6-15 "similarly." Applicant respectfully traverses the Examiner's rejection for the same reasons discussed above in conjunction with claims 1-5. Further, however, independent claim 6 includes an additional recitation to the current source having an intrinsic transistor. As discussed in Applicant's specification, the use of an intrinsic transistor has further significant benefits in enhancing the independence of the output signal of the logic gate from "noise" appearing on the voltage supply. Lee neither discloses nor suggests that an intrinsic transistor could be used in a current source of a logic gate, or that using such an intrinsic transistor may beneficially reduce noise produced by the logic gate. While Chang shows that an intrinsic transistor may be employed in a circuit, Chang never discusses the use of an intrinsic transducer to reduce noise produced by the logic gate. That is, Chang adds nothing to Lee to further the Examiner's argument that it would be obvious to replace the N-type transistor of Lee with a P-type intrinsic transistor for the purpose of producing a low noise current source that is capable of delivering a preselected voltage signal to its output terminal that has a magnitude responsive to a first control signal relatively independent of the magnitude of the voltage on the first terminal of the voltage supply.

Accordingly, claim 6 and its dependent claims (7-9) are patentably distinct over Lee and the remaining applied references. Further, claims 6-15 are also patentably distinct over the prior art for at least the reasons discussed above in conjunction with claim 1. Applicant respectfully requests that the rejection of claims 6-15 be withdrawn.

The Examiner is invited to contact the undersigned attorney at (713) 934-4050 with any questions, comments or suggestions relating to the referenced patent application.

Respectfully submitted,



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